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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,204	04/26/2001	Charles Wolfe	4740-006	8819
24112	7590	05/17/2005	EXAMINER	
COATS & BENNETT, PLLC			PHAM, BRENDA H	
P O BOX 5			ART UNIT	PAPER NUMBER
RALEIGH, NC 27602			2664	

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/843,204

Applicant(s)

WOLFE ET AL.

Examiner

Brenda Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 and 31-53 is/are rejected.
- 7) ☐ Claim(s) 27-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-53 are pending.
2. As requested by Applicant, a new non-final rejection, based on the newly cited reference, is issue to overcome the unclear rejection statement in prior Office Action. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-7, 9-26, 31-35, 37-53 are rejected under 35 USC 102(a) as being anticipated by HOHNSTEIN et al (US 6,816,706 B1).

Claim 1, 14, 16, 18, 23, 25, 26, 31-33, 38-44, 46-47, 49--50, HOHNSTEIN et al disclose a radio access network supporting mobile terminal communications comprising (see figure 1): a mesh of RF-coupled radio base stations (**access point 22 of figure 1**), each said radio base station operative to transmit and receive communications traffic to and from one or more mobile terminals, and to relay communications traffic to and from other ones of said radio base stations in said mesh **{Each access point 22 communicates with at least one distribution point 40 (distribution point 40 is function as concentrator also can be base station), col. 5, line 43-45}**; at least one concentrator (**distribution 40 of figure 1**) coupled to at least one said radio base station in said mesh to carry the aggregate of communications traffic associated with said mesh; and a base station controller **{base station controller include gateway and supervisor 56}** communicatively coupled to said at least one concentrator (**40**) to process communication traffic to and from said mesh.

Claims 2, 17, 21 and 45, HOHNSTEIN et al further teach the radio access network of claim 1 wherein said mesh of radio base stations comprises an IP-based packet data network wherein each radio base station routes packet data intended for other radio base stations within said mesh (**see col. 5, lines 58-65**).

Claim 3, 11, 24, 34-35, 37, 48, HOHNSTEIN et al further teach the radio access network claim 2 wherein each said radio base station comprises (**see figure 2**): a mobile terminal interface comprising first RF resources (**communication interface 100 of figure 2**) operative to communicate with a plurality of mobile terminals operating in a coverage area of said radio base station; a backhaul interface (**communication**

interface 106) comprising second RF resources operative to communicate with other ones of said radio base stations in said mesh; a controller to control operation of said radio base station; and a router (intelligent packet switch 114 is function as controller/router) to transmit and receive packet data through said backhaul interface, said packet data comprising communications traffic for any mobile terminals supported by said radio base station as well as communications traffic for other radio base station in said mesh, **(also see col. 5, lines 49-57).**

Claim 4, **HOHNSTEIN et al** teach the radio access network of claim 3 wherein said backhaul interface **(106)** in at least some of said radio base stations in said mesh further comprise RF resource **(110)** operative to communicate with one or more of said concentrators **(40)** coupling said mesh to said base station controller (see figure 2).

Claim 5, **HOHNSTEIN et al** teach the radio access network of claim 3 wherein said router comprises an IP-based router, and wherein each said radio base station in said mesh functions as a router within said mesh (col. 5, line 58-65).

Claims 6, **HOHNSTEIN et al** teach the radio access network of claim 3 wherein said first RF resources **(communication interface 100)** comprise RF transceivers implementing a standardized cellular communications air interface suitable for signaling between the mobile terminals and said radio base station.

Claim 7, **HOHNSTEIN et al** teach the radio access network of claim 3 wherein said second RF resources comprise RF transceivers implementing a second air interface **(110 of figure 2).**

Claim 9, HOHNSTEIN et al further teach the radio access network of claim 1 wherein said concentrator **(distribution point 40)** is a mesh attachment point comprising: a first communications interface to communicatively couple said mesh attachment point to said base station controller; a second communications interface comprising RF transceiver resources to communicatively couple said mesh attachment point with said backhaul interface of one or more adjacent radio base stations in said mesh; and a router to relay communications traffic between said mesh and said base station controller (see figure 2 and 3).

Claim 10, HOHNSTEIN et al further teach the radio access network of claim 1 wherein said concentrator **(40)** is a mesh attachment point comprising a first communications interface coupled to said base station controller and a second communications interface coupled to one or more radio base stations in said mesh **(see figure 2 and 3)**.

Claims 12, 13, 19-20, 22, HOHNSTEIN et al further teach wherein said base station controller **(gateway 50 and supervisor 56 is function as base station controller)** comprises a control system operative to configure routing tables maintained in said radio base stations comprising said mesh to establish routing paths through said mesh; and update said routing tables during operation of said radio access network to dynamically adjust said routing paths based on the respective volume of communication traffic being relayed by radio base stations within said mesh **(col. 7, line 20-46)**.

Claim 15, HOHNSTEIN et al teaches a network manager **(supervisor 56)** communicatively coupled to said base station controller and operative to provide

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network management functions for said mesh of radio base stations (col. 7, lines 20-45).

Claims 51-53, HOHNSTEIN et al teaches determining a best route through said mesh for communication traffic to and from said final radio base station based on a desired quality of service associated with said communication traffic {supervisor 56 provides each distribution point 40 with a logical address and a listing indicating to which additional distribution point 40 in communication with distribution point 40 information packets should be forwarded for each possible destination distribution point 40. The listing may be based on maintaining a minimum quality of service in the path through distribution point network 41 to the destination distribution point 40, (col. 7, lines 33-46)}.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over HOHNSTEIN et al (US 6,816,706 B1).

As explained in the rejection statement of claim 1 and 31 (parent claims), HOHNSTEIN et al discloses all the claim limitations of claims 1 and 31.

HOHNSTEIN et al does not teach wherein said second air interface is an ISM-based air interface. Implementing air interface using ISM-based air interface is well known in the art. Therefore, it would have been obvious to those having ordinary skill in the art at the time of the invention was made to implementing ISM-based air interface in HOHNSTEIN et al.

Allowable Subject Matter

7. Claims 27-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The prior art made of record does not teach or fairly suggests in combination the method of claim 16 comprising steps of determining the RF coupling between respective ones of said radio base stations comprising said mesh at a central network manager; generating routing information at said central network manager based on said determined RF couplings; and distributing said routing information to said radio based stations comprising said mesh.

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Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda Pham whose telephone number is (571) 272-3135. The examiner can normally be reached on Monday-Friday from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin, can be reached on (571) 272-3134.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

Brenda Pham

May 13, 2005

A handwritten signature in cursive script that reads "Brenda A. Pham". The signature is written in dark ink and is positioned below the typed name and date.